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Dear colleagues,
At the end of the second “short” month of the year, longer this year, it seems that all the countries worldwide are facing the threat of this new coronavirus. A “crown” in the name of this threat, makes it very bizarre, nearly a joke, but we should definitely try not to panic. Some of you may be doing research on it in labs, some may be helping in detecting it. Let’s hope for the better!
Don’t panic about the cyber-dangers either. Read the related article in this eNews issue to better understand and find ways to face these dangers in your everyday scientific life.
And, last but not least, on the contrary, a very important and exciting news arrived about the eJournal, our eJournal. It is already in the Scopus, thanks to the wonderful work done by the editor János Kappelmayer and the whole editing team.
Go through the news! Hopes and achievements are all there.
Katherina Psarra

Postponement of the IFCC WorldLab Congress in Seoul to Fall 2020

We are writing on behalf of the IFCC Executive Board to inform you that the WorldLab Congress in Seoul will be postponed due to the Coronavirus concerns and worldwide travel restrictions.
A new date for the conference will be determined as soon as possible by the conference organizers, depending on the availability of the congress centre in Seoul. We are working closely with the local organizers and the PCO to select the most appropriate date and location for the congress.
A formal announcement will be circulated as soon as a new date has been confirmed.
Kind regards,
Professor Maurizio Ferrari, IFCC President
Professor Khosrow Adeli, IFCC President-Elect
INTRODUCTION

• The Pakistan Society of Chemical Pathologists (PSCP), a Full Member of IFCC, is actively involved in IFCC conferences and meetings. PSCP’s current president is Prof. Dr. Aamir Ijaz.

• After initial E-Mail contacts, PSCP submitted the Application for IFCC DQCML program to DQCML on September 27, 2019, in order to organize a workshop. Requested topic was described as: “Developing Quality Competence in Medical Laboratories”. The goal and objectives of the visit was described as: “To have interaction of freshly qualified Chemical Pathologists and Medical Technologists with foreign experts in this field. This will make their vision broader about the most important aspect of Chemical Pathology”.

• Dr. Annette Thomas (Chair C-AQ) and Prof. Egon Amann (Chair DQCML) were confirmed as speakers (In the end, Prof. Egon Amann couldn’t make it for personal reasons; Dr. Annette Thomas conducted the workshop on her own).

• Subsequently the workshop was fixed to be held on January 10 and 11, 2020, in Lahore, at the University of Health Sciences and EXPO Center. The workshop was organized as a satellite event of the 4th Pak Health International Expo & Pakistan Society of Chemical Pathologists (PSCP) Conference.

• Three major topics were listed in this application:
  I. Quality Assurance (IQC & EQA)
  II. Lab Management
  III. Clinical Interpretation

• In order to learn more about the actual situation and issues in Pakistan Clinical Chemistry labs, Annette Thomas visited three clinical laboratories after the workshop. These laboratories were very
different in relation to size, complexity, speciality and the range of facilities available. Two were private laboratories and one a public hospital laboratory. The larger private laboratory had significantly better facilities and equipment, had a robust but developing quality management system and had recently applied for CAP accreditation.

VISIT PROGRAM

Day 1: Assuring Quality in the Clinical Laboratory
Day one was devoted to lectures and workshops. Fifty-two participants attended, including primarily Chemical Pathologists and Laboratory Managers.

For the interactive workshop “What is the best strategy to achieve compliance with QMS- and QC-requirements in the clinical laboratory” the 52 participants were divided into five groups and asked to provide the three most important issues that impacted on quality in their laboratory.

Each of the groups nominated a speaker and an interactive question and answer session with the audience and Annette Thomas ensued. Hot topics were presented by the five groups.

Some proposals to improve the general situation of Clinical Chemistry in Pakistan were discussed in the Q and A session:

**IQC & reagents issues**

- Work on timely supply of reagents & QC materials is needed. Additional inventory management tools and assistance from the distributors and manufacturers.
- Tighter specifications relating to the quality, stability and delivery of reagents and consumables.
- Set KPIs for manufacturers to provide quality reagents and maintenance.

**Training of staff**

- Training on inventory management and workload planning is required.
- Training of pre-analytical issues should also include training of other personnel, i.e., phlebotomists, junior medical staff.

Q and A session on Day 1

Participants on Day 2

Laboratory visits on Day 3 – Pathology Laboratory, Punjab Institute of Cardiology

Article continued on next page
• Training of IQC principles and planning relating to frequency, statistical analysis, trending, troubleshooting.
• Risk management awareness training

**Pre-analytical and Post-analytical work**

• Try to optimize the processes, in particular sample handling, temperature control, and documentation.

**EQA schemes**

• Emphasise that Laboratories need to participate in EQA schemes to improve quality and patient safety.
• Participation in international EQA schemes should enhance quality of participating labs.
• Consider creating a simple pilot programme in Lahore for laboratories that do not currently participate in any EQA Scheme.

**Day 2: Symposium on Developing Quality Competence in Clinical Labs**

Day two was devoted to formal lectures and the continuation of the workshop discussions from Day one. 140 delegates attended, in addition to those from Day one and an additional cohort of medical technologists and trainees attended as well.

The IFCC officers expect that PSCP will utilize the lessons from the workshop to improve pre-analytical, IQC, EQA and contract management in Pakistan.

The full text including the programme of the two days, along with the Summary of possible solutions for identified issues, are available on the IFCC Website at: https://www.ifcc.org/media/478309/dqcmml-workshop_pakistan_amann_thomas_2020.pdf.

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Laboratory visit Day 3 – Pride Lab Clinical Laboratories

Laboratory Visits - Chughtai Lab

Laboratory visits – Laboratories opposite Services Hospital, Jail Road, Lahore

*Article continued on next page*
Participants on Day 1

Organizers and speakers: Dr. Annette Thomas, Chair C-AQ and DCQML Lecturer (second from the left)
The first course on basic cytometry was organized in Al-Zahraa University Hospital, Hematology department, in Cairo on 27-28 November 2019.

The course was organized by Dr. Reham Hammad, Hematologist, Assistant Professor at Al-Zahraa University Hospital Cairo.

The course was organized under the umbrella of Prof. Dr. Tarek Salman, Vice President of Al-Azhar University for Post-Graduate Studies and Research., Prof. Dr. Nayera Moftah, Dean Faculty of Medicine (Girls), Al-Azhar University and the International Federation of Clinical Chemistry and Laboratory medicine (IFCC).

The course aimed to introduce the principles of cell analysis by flow cytometry mainly for hematologic diagnosis.

The course was limited to 24 participants for pedagogic reasons. The participants were professors, assistant professors or biologists in hospitals, coming from different university hospitals throughout Egypt. Most of the participants knew little but had access to a cytometer, mainly Calibur™, Canto™, Navios™ or Cytoflex™ instruments. All had a good knowledge on hematology, leukemia and lymphoproliferative disorder classification and clinical significance.

The course included 12 hours of lectures and 4 hours of practicals.

Lectures were performed by experienced teachers:

- Dr. Claude Lambert (Immunologist, Saint-Etienne university hospital, IFCC)
- Dr. Reham Hammad (Hematologist in Al-Azhar university)
- Dr. Eman Kandil (Hematologist in National Cancer Institute)
- Dr. Mahmoud Hammad (Pediatrician oncologist in National Cancer Institute)
• Dr. Mona Alrayes (Al-Azhar) kindly volunteer to give a lecture but sadly could not for family major reasons.

The lectures addressed the following:
• Basics of flow cytometry, physics, fluidic, fluorescence, instrument settings, compensations.
• Sample preparation
• Data analysis, positive/ negative, gating strategies, statistics, reporting
• Basics for immunological analysis including T cells, B cells and dendritic cells.
• Basics for leukemia phenotyping and interpretation
• Basics for lymphoproliferative disorders phenotyping and interpretation

Course paper approval was coordinated by Dr. Ahmed Elshafei, Lecturer, Faculty of Pharmacy (Boys), Al-Azhar University.

For reasons of space limitations, only 15 participants were selected to attend the practicals; each one made one T, B, NK immune-labelling on whole blood, lysis, wash and analyzed their own sample on the cytometer from the Al-Azhar university.

The course was performed in a very intense, high quality level. Participants were highly attentive to the courses and a lot of interactions and discussions came from the audience. Courses slides and few documents were distributed in electronic pdf format at the end of the course. A certificate of attendance was delivered at the end of the course.

Satisfactory questionnaire was distributed at the end of the course and was collected anonymously. Quote was almost unanimously appreciated as excellent or very good. Only the course high density in a short period of time was the general complain. More practical work was also asked by many participants.

The course costs were limited to a minimum. All course expenses (breaks, lunch, certificates, and documents) were covered by the registration fees that were adapted to the local possibilities.
Most participants had no financial support for participating in the course. Expenses were managed by the Al-Azhar University. The course and practicals were possible thanks to Al-Azhar University hospital for the lecture room and the laboratory/instrument availability. Mr. Mohammad Fawzy helped a lot with the logistics. The two main flowcytometry distributors were informed on the course and made a visit to the course but did not contributed financially.

Dr. Claude LAMBERT,
IFCC Flow cytometry Working Group coordinator
Activities carried out at WG-IANT 2014-2019

by Dra. María del Carmen Pasquel Carrera
Past Chair WG-IANT

In the XXIV LATIN AMERICAN CONGRESS OF CLINICAL BIOCHEMISTRY COLABIOCLI. PANAMA 2019, Dr. María del Carmen Pasquel made the presentation of activities during the two periods of the Chair of this Ibero-American Working Group of Nomenclature and Translation (WG-IANT) that belongs to the Ibero-American Corner (RIA) of the Communications Division and Publications (CPD) of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC). RIA/WG-IANT/CPD-IFCC.

MEMBERS
The group consists of 22 members belonging to the 12 countries of Iberoamerica: Argentina, Bolivia, Colombia, Ecuador, Guatemala, Cuba, Paraguay, Panama, Portugal, Dominican Republic, Spain and Uruguay, during this period professionals from Panama, Dominican Republic and Portugal were included.

MEETINGS
WG-IANT has done two meetings every year, continuously during these 6 years. In this period, they have met 11 times in Europe and America during important scientific events all sponsored by IFCC.

LOGOS
The RIA and DIV logos were updated in 2014.

BOOKS
12 books have been published, 11 of them free access.

IN VITRO DIAGNOSTIC ELECTRONIC MAGAZINE (DIV)
During this period, the magazine format was changed. The electronic magazine Diagnostico In Vitro (DIV) rules were defined in this period by the group.

DiV structure presents:
- Editorial made by the Director in Chief of the magazine.
- News of scientific relevance, and news of the different scientific societies that make up the IFCC or COLABIOCLI group.
- DIV has a section for Research Articles, and 35 original articles have been published to date.
- Letters to the Director: 6 letters to the director with relevant scientific information have been published
- Another section dedicated to IFCC young scientists and everything they can get through scholarships, mentoring or tutoring with IFCC.
- Finally a section dedicated to interviews in Laboratory Medicine, which provides us with the online radio The Microscope.

Dra. BQF. María del Carmen Pasquel Carrera
Past Chair WG-IANT

Article continued on next page
• Back cover with the presentation of the Editorial Committee and the Editorial Committee of the Magazine.

The edition is four-monthly and has been maintained since October 2015, it is published electronically and uninterruptedly, in February, June and October of each year. The 14th edition was released in February 2020.

CONTINUOUS EDUCATION
RIA and WG-IANT have collaborated in central events with their CPD members and authorities, publicizing the ways in which IFCC facilitates continuous training and the different mechanisms it offers in educating professionals in laboratory medicine. Such scientific events were held in countries such as Ecuador, Dominican Republic, Panama, Argentina and Guatemala.

TRANSLATIONS
The nomenclature and translation working group worked on the translation from English to Spanish of 60 videos from different areas in the clinical laboratory. There are 10 videos ready on the web with Spanish subtitles.

The translations are done using AMARA platform.

LINKS
There are 400 links updated in RIA, of related international organizations, universities, scientific societies.

FACEBOOK AND FAN PAGE
The group has the website Rinconiberoamericano and a fanpage with the same name.

Thanks to the entire working group for their valuable contributions, to Dr. Patrocinio Chueca from Spain for her important help in the editorial board of the magazine and to Miss Silvia Colli-Lanzi IFCC secretary for all her help in carrying out the management as Chair of the WG-IANT, I also thank the CPD and IFCC authorities that allowed me to collaborate in this position.

First WG-IANT meeting at IFCC WorldLab, Istanbul June 2014.
News from the IFCC Website

eJIFCC's inclusion in Scopus

The IFCC is happy to announce that the electronic Journal of the IFCC - the eJIFCC, has been recently accepted for inclusion in Scopus.

Inclusion of the Journal in Scopus is a testimony to the significant accomplishment of the journal just in a few years. Scopus is the world’s largest abstract and citation database of peer-reviewed literature.

Read more

www.ifcc.org

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Welcome and thanks to the Chairs

YENICE SEDEF YENICE (TR)

Sedef Yenice is the new member of the IFCC Education and Management Division (EMD), Executive Committee (EC). She served as the Chair of the Committee on Clinical Laboratory Management (C-CLM) within the IFCC EMD from 2014 and completed her second term in December 2019. During Prof. Yenice’s term, the C-CLM held eight successful high-quality educational workshops and five symposia in Zimbabwe, Madrid, Durban, Stellenbosch, Bodrum, Budapest, Anaheim, Marrakech, and Jaipur. In addition, the committee developed a Laboratory Leadership Training Program with well-prepared textual materials and produced four useful monographs: “Leadership Basics for Clinical Laboratory Professionals”, “Practical Approaches to Quality Systems Set-up for Compliance with Internationally – Acceptable Requirements”, “Project Management Basics for Laboratory Leaders” and “Basic Problem Solving Tools for Quality Improvement - A Pocket Guide for Laboratory Professionals”. Also, the group created specific “Case Scenarios” for clinical laboratory professionals.

Under her leadership, the efficiency and the productivity of C-CLM were significantly enhanced. The focus of the education provided by the C-CLM during this time has been around the establishment of effective leadership development for laboratory leaders, the importance of managing a laboratory utilization within a quality framework and improving the utility of quality management by integrating the verification tools into the clinical laboratory practice.

She is a Professor of Biochemistry and Clinical Laboratory Medicine. She serves as Head of the Core Clinical Laboratory Services and Associate Director of Tissue Typing Laboratory at the Group Florence Nightingale Hospitals in Istanbul, Turkey and teaches at the medical school, Demiroğlu Bilim University. She undertook specialist training in Clinical Biochemistry at the Dokuz Eylül University, Faculty of Medicine, and Institute of Health Sciences, Izmir, Turkey, and doctoral research training at the Department of Research on Cellular and Molecular Biochemistry, the University of Minnesota (MN, USA) in the area of androgenic regulation of protein kinases in prostatic cell growth, then post-doctoral research training at the Department of Surgery, Western General Hospital, Edinburgh, UK, where she studied as a fellow on a research scholarship of European Urological Scholarship Foundation. She completed the Executive Management training...
program from Mendoza College of Business, the University of Notre Dame (IN, USA). Her scientific work has been recognized through many national and international awards. She is the author of more than 150 publications in refereed national and international journals. She is the current Chair of the Turkish Biochemical Society Committee on Clinical Laboratory Management and Working Group on Quality Assurance and Laboratory Accreditation.

She has been appointed as an advisor of the Clinical and Laboratory Standards Institute (CLSI) Expert Panel on Clinical Chemistry and Toxicology and a contributor to the CLSI Document Development Committee on Establishment and Implementation of LDTs (EP42) from 1 January 2020. She is currently involved in building a course on leadership in laboratory medicine as an author within the AACC Learning Lab for Laboratory Medicine on NEJM Knowledge+ which is an adaptive e-learning product for preparation for certification, competency assessment, and continuing medical education.

Thank you, Sedef, for your hard work and commitment to sharing your expertise and knowledge and best wishes for your new position!

WELCOME TO PRAVEEN SHARMA (IN)

Prof. Praveen Sharma

Prof. Praveen Sharma is the new Chair of the IFCC Committee on Clinical Laboratory Management (C-CLM).

Prof. Praveen Sharma is a Professor and the Head of Biochemistry Department, Controller of Examinations and Dean (Research) at All India Institute of Medical Sciences, Jodhpur, India.

He has more than 40 years’ experience of teaching Clinical Biochemistry and Laboratory Management.

He has over 120 research publications in various prestigious journals and has interest in Diabetes, Metabolic Syndrome, Atherosclerosis, Antioxidants and Lead Toxicity.

He has delivered Invited Lectures at various National and International Meetings. He is a recipient of the G S Seth Medical College Oration Award (2004), Pattabiraman Oration Award (2010), Awadhesh Saran memorial Oration Awards (2013) and A.J. Thakur-ACBI award (2015) for distinguished service and significant contribution to the field of Clinical Biochemistry.

He has been awarded with merit award by Rajasthan Government in 2002.

He has been twice President of ACBI and Fellow of the Association of Clinical Biochemists of India (FACBI) and Fellow of National Academy of Medical Sciences (FAMS).

Prof. Praveen Sharma is Editor-in-Chief, Indian Journal of Clinical Biochemistry (IJCB) and Chairman, Corporate Wing of ACBI.

He has also served as member of Accreditation Committee of National Accreditation Board for Testing and Calibration Laboratories (NABL) and a NABL Assessor.

Dr. Sharma is the President of Indian Society for Lead Awareness and Research (InSLAR) and Director of National Referral Center of Lead Project India, Jodhpur.

He was the ACBI Representative to Asia Pacific Federation of Clinical Biochemistry and Laboratory Medicine (APFCB) and Chair Communication Committee of APFCB and also Chief Editor of APFCB News.
María del Carmen Pasquel Carrera is the Past Chair of the Working Group Iberoamerican Nomenclature and Translation (WG-IANT) RIA / CPD - IFCC.

She was appointed on April 8, 2014 as Chair of the WG-IANT and concluded her activity in December 2019. She is from Ecuador and has had professional experience as Former Assistant Professor of Biochemistry of the Faculty of Chemical Sciences. Universidad Central del Ecuador (UCE).


She was the President of the Organizing Committee of the XXII COLABIOCLI Congress 2015 and the President of the Organizing Committee of more than 36 scientific events, and she has been a prolific speaker at national and international events in congresses, workshops, symposiums.

She is Regional Adviser for The Ecuador of The Wiener Lab Foundation since 2010 and “Correspondent” of Ecuador in the Online radio “The Microscope”.

Regarding education, Dr. María del Carmen Pasquel has a Professional Degree in Pharmaceutical Biochemistry, an Academic Degree of Dr. in Biochemistry and a Diploma in Hematology of Universidad Central del Ecuador (UCE) and she is an Internal Auditor ISO 9001: 2015 and ISO 31000: 2018 Risk Management of the European School of Excellence.

Some of the relevant scientific aspects of Dr. María del Carmen Pasquel, are the following: she has published research articles in international scientific journals, she has been the author of almost all the editorials of the electronic journal Diagnostico In Vitro and she is Past Chair of the Working Group Iberoamerican Nomenclature and Translation (WG-IANT) / RIA / CPD - IFCC.

She is Chief Director of the online scientific magazine Diagnosis In Vitro (DIV) of IFCC, until the issue of February 2020, Guest Editor of the e Journal IFCC scientific, International editor of the “Clinical Laboratory” magazine of Spain, Member of the Ecuadorian Accreditation Service (SAE), Consultant and Speaker of Quality and Risk Management for consultancy and training in Ecuador in the CONSULTORIA Y CAPACITACION EN ECUADOR (CONCAPEC).

Thank you María del Carmen for your commitment and great results!

The summary of Dr. María del Carmen Pasquel activities as Chair of the WG-IANT is found in this issue of eNews, “THE VOICE OF IFCC” section.

Besides he was Organizing Chairman of APFCB Congress 2019 held in Jaipur, India. He had also been the ACBI representative to the International Federation of Clinical Chemistry and Lab Medicine (IFCC). He joined IFCC-CCLM as a full-time member in 2017. Best wishes for your new position, Prof. Sharma!
Raúl Girardi is the new Chair of the IFCC Working Group Ibero-American Nomenclature and Translations.

Dr. Girardi was born in Mar del Plata, Buenos Aires, Argentina. He graduated in Chemistry at the Faculty of Exact Sciences of the National University of La Plata and Biochemistry at the Faculty of Exact Sciences of the National University of La Plata. Currently he is the Director of the External Quality Assessment Program (PEEC) of the Argentine Biochemical Foundation, and the Director of the Laboratory of Reference and Standardization in Clinical Biochemistry (LARESBIC) of the Argentine Biological Foundation.

He is Professor of Clinical Chemistry, at the Faculty of Exact Sciences (UNLP) and of Biochemical Practic-es at the Faculty of Exact Sciences (UNLP), professor of Quality Assurance in Clinical Biochemistry, Biochemistry Career at the Exact Faculty of Science Laboratory Management Specialization, Buenos Aires University (UBA).

Dr. Girardi is also a member of the Committee for Traceability in Laboratory Medicine (C-TLM) of the IFCC, a member of the Consensus Committee for Primary Diagnosis of Chronic Renal Disease of the Argentine Society of Nephrology (SAN), a member of the Comprehensive Approach Program for Kidney Diseases (PAIER) and serves as member of the Standards Committee of the Argentine Institute of Standardization (IRAM) on Reference Systems and Reference Materials.

Congratulations to Dr. Girardi for his new role as Chair of the IFCC Working Group Ibero-American Nomenclature and Translations (WG-IANT).

**WELCOME RAÚL GIRARDI (AR)**

Raúl Girardi

**Raúl Girardi is the new Chair of the IFCC Working Group Ibero-American Nomenclature and Translations.**

Enjoy the contents of the new DIAGNÓSTICO IN VITRO February issue. El número comienza con la editorial de la Dra. María del Carmen Pasquel, directora del DiV y sus saludos y felicitaciones al nuevo Chair del Grupo de Trabajo de Iberoamérica de Nomenclatura y Traducción (WG-IANT), dr. Raúl Girardi - Argentina, para el periodo enero 2020 hasta diciembre 2022.

Lee todas las novedades y noticias, los artículos científicos, la carta al director, la sección dedicada a los jóvenes científicos IFCC y no olvides la entrevista “El Microscopio”. In this issue the IFCC WG-IANT confirms its commitment to advance excellence in laboratory medicine for better healthcare worldwide in Latin America.

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The 3rd annual Conference of the Young Scientists Working Group of the Italian Society of Clinical Chemistry and Laboratory Medicine (YS-WG SIBioC) has been held on 20 December 2019 in Rome at Tor Vergata University, under the auspices of the SIBioC, the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) and the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC).

The theme of the Conference was “Novel targets and new technologies: from bench to bedside”.

The first session focused on the impact of novel technologies on prevention, care and diagnosis.

The fascinating lecture by Prof. Bernard Gouget on “Mobile and eHealth” illustrated the application of Artificial Intelligence, learning machines, wearable devices and much more, to move forward in a novel scenario for care and prevention.

Dr. Laura Conti talked about the Biobanks, which can be one of “the ten ideas changing the World right now”, citing a definition of the Time Magazine. Biobanks can indeed represent a great opportunity and resource for the scientific research, facilitating the progress of translational and precision medicine.

Then, the talks by Alessandro Sturaro and Andrea Gentile focused on the development of algorithms and Computer aided diagnostics, and of new tools and Apps to support health prevention.

The second session was on “Novel targets and discoveries in the laboratory of cardiovascular disease”.

Prof. Francesco Romeo talked about a multidisciplinary approach to the pathogenesis of atherosclerosis introducing the role of immunity.

New diagnostic and molecular tools in Cardio-laboratory have been reported by Prof. Aldo Clerico and Dr. Marco Perrone.

Prof. Ali Wahid, from India, presented his studies on the molecular mechanisms of atherosclerosis, in
particular on the role of miRNA and small molecules signaling, carried out in part during the IFCC Exchange Program in 2016 at the University of Rome Tor Vergata, Italy.

The last session was joint with the “IFCC Task Force for YS”, organized with the Chair of IFCC Task Force-YS Prof. Pradeep Kumar Dabla and focused on the perspectives of young Scientists in the new decade.

Dr. Manel Chaabane, the corresponding member of the Tunisian Society, talked about the role of the Scientists in clinical setting, while Dr. Gabriel Lima Oliveira, described his personal experience during his PhD fellow from Brasil to the University of Verona, mentioning the publication of a collective book with his research articles.

Finally, Dr. Cecilia Napodano and Dr. Serena Nannini presented a “white book” with the results of a survey on education and work of young specialists in laboratory medicine in Italy. This “white book” represents a picture on the education and professional perspectives for YS and residents in Italy.

The 3rd annual Conference of SIBioC YS has been organized by the Executive Board of YS-WG under the direction of the SIBioC President, Prof. Sergio Bernardini. The participation at the conference of residents, fellows and young scientists was supported by Travel Grants offered by SIBioC and by Companies to promote the participation of young scientists and specialists in the Society activities, the formation of new networks and collaborations at national and international level, thanks to the cooperation with the IFCC TF-YS.
Mentorship
INTERVIEW

Presented by IFCC Young Scientists Task Force

AN INTERVIEW WITH PROF. CAVALIER (THE MENTOR) AND DR. ERIC YAYO (THE MENTEE)

Dr. Cavalier is currently Professor of Clinical Chemistry at the University of Liege, Belgium, and the Head of the Department of Clinical Chemistry of the University Hospital of Liège (CHU de Liège). He is also the President of the Royal Belgian Society of Laboratory Medicine, and Chairman of the IFCC Committee on Bone markers. His research topics mainly focus on bone and phosphocalcic metabolism (his PhD was on parathyroid hormone) and renal function. He is a member of the Board of different clinical scientific societies such as the International Osteoporosis Foundation, and the European Renal Association – European Dialysis and Transplant Association.

How They Met

Responding to the question, as to how Dr. Eric Yayo met his mentor, he noted:

I first learned of the work of my esteemed mentor, Professor Cavalier, while I was performing a bibliography review for my own research. I came across many of the fascinating articles he co-authored in collaboration with Professor Pierre Delanaye. So, I reached out and asked him if he could share some experience with me, and to my delight, he spontaneously accepted. This collaboration transformed my personal and professional development through the sharing of his vast knowledge, expertise and experience. It continued with the completion of a joint PhD agreement between the Universities of Liège and Abidjan.

Prof Cavalier was also my promoter at the University of Liège. Even now, after our first association back in 2015, Professor Cavalier continues to support my academic pathway to teach and conduct research in my home town of Abidjan in the Public Hemodialysis Center of Côte d’Ivoire Hospital, and the University Felix Houphouët-Boigny. At the hospital, I am responsible for the clinical laboratory. In our lab, we provide biological testing for patients suffering from chronic kidney diseases (CKD) as well as for hemodialyzed patients. At the University, I am a senior lecturer, and I teach biochemistry to students in pharmaceutical sciences. Professor Cavalier unwavering support not comes in many forms, and on top of that, I know that I can always have a friendly, enlightening discussion with him. And of course, I always have questions.

Background

When asked about his background, Dr. Yayo stated: “My background comprised training as a Pharmacist with specialization in Laboratory Medicine (University Houphouët-Boigny, Abidjan), and I undertook a PhD in Biomedical and Pharmaceutical Sciences at the University of Liège, Belgium.

How His Mentorship Impacted His Career

When the subject of how his mentorship has impacted his career in biochemical and
Mentorship INTERVIEW

“Prof. Cavalier has been and remains an excellent mentor for me. It is a chance to benefit from his human and scientific qualities: simplicity, availability, scientific rigor, motivation, promotion and empowerment of the members of his team.”
- Dr. Yayo

pharmaceutical sciences, Dr. Yayo remarked:

Incredibly! It has positively supported my aspirations, and broadened my horizons in what I have done, and continue to do. It has also made me more determined to be successful. I consider my relationship with Professor Cavalier, very fruitful and profoundly enriching. In the beginning, it was rather academic, mainly focused on training by observation, and orientation to the research work. Gradually however, with the high quality of the coaching, we have evolved towards sharing our experiences with support and help in the realization of research projects. Today, we are continuing to work on a collaboration that is being strengthened over time with new joint projects.

The Mentor's Perspective

Being a mentor, and having mentored different students (trainees in clinical chemistry, PhD students, students in pharmaceutical and/or biomedical sciences and lab technicians), for about 15 years, Dr. Cavalier has a different point of view from his mentee, Dr. Yayo. When deliberating on the most valuable aspect of this mentor and mentee relationship, he remarked: “Without any doubt, it is the human adventure that starts at the early beginning of the relationship and that goes on afterwards.”

To this, Dr. Yayo noted: “Prof. Cavalier has been and remains an excellent mentor for me. It is a chance to benefit from his human and scientific qualities: simplicity, availability, scientific rigor, motivation, promotion and empowerment of the members of his team.”

Dr. Cavalier then responded to how the mentorship program can help young scientists and laboratorians in their career. He noted: “Unfortunately, I have no personal experience with the mentorship program, but any program facilitating the exchange of students or helping people to get experience from abroad, especially they come from an emerging country like Eric, is important.” And when reflecting on how young scientists seek out their mentors, Dr. Cavalier remarked: “I guess it is on the scientific reputation of the mentor, in the research domain that the mentee wants to explore.”

Invaluable Guidance

When asked to name several projects, and how Dr. Cavalier helped to guide him in accomplishing his projects. Dr. Yayo stated:

We worked on the determination of glomerular filtration rate (GFR) in African black individuals with a reference method (iohexol clearance); as well as on the evaluation of the performances of GFR estimation formulas in black Africans. The protocol validation was designed by Professor Cavalier. I was able to help by performing the technical data analysis in the service of Professor Cavalier,
"Laboratory medicine is nothing without clinical interactions. Get out of the lab and meet clinicians, participate in their staff meetings, and maybe consultations. This will dramatically increase your knowledge, and build a good relationship with clinicians, who will also see the lab differently, and finally, will help to give you ideas for nice studies!"

– Dr. Cavalier

benefiting from the equipment, materials and inputs required. He has reviewed the scientific articles resulting from these studies.

In addition, we have been working on a study involving parathyroid hormone (PTH) and vitamin D (before and after supplementation), in healthy Ivorians and dialysis patients. In this study, vitamin D was provided by Professor Cavalier, as well as the management of sample shipment in Liège (which is relatively expensive). I also had the opportunity to co-host international IFCC congress sessions on these topics, with Prof. Cavalier. Currently, we are working on a platform comparison project of PTH and vitamin D between the equipment used in our respective departments (CHU Liège vs Public Dialysis Center in Abidjan).

Research Activity & Published Work

Dr. Yayo notes: “My research activity is focused on: methods of determination of Glomerular Filtration Rate (GFR) and exploration of mineral-bone disorders in patients suffering from CKD. Cardiovascular pathologies. I am proud to say that we have published some of our results in various journals, including Clinical Chemistry and Laboratory Medicine, Nephrology Dialysis Transplantation and the Annales of Biologie Clinique.

Common Challenges Faced by Young Scientists

Putting the spotlight on these common challenges, Dr. Cavalier stated that:

From a personal perspective, I would say money to travel and stay in a country which is probably more expensive than the one they live in, and being far from their relatives for a quite long period of time. From a professional one, the lack of immediate credibility, and the difficulty to publish papers in good journals. Also, some pressure to have papers accepted to obtain their PhD thesis in a quite short period of time.

The Advantages of Having a Mentor

When asked more about these advantages, Dr. Yay notes:

There are many benefits in working with a mentor. This relationship allows the mentee to benefit from the mentor’s vast experience and scientific rigor, and empowers him or her to learn how to find one’s way in scientific research; and to benefit from the mentor’s guidance and reputation in the field. It also allows the exchange of experiences with the other members of the mentor’s team.
How to be a Good Mentor & Maintain a Good Relationship

Professor Cavalier states that:

A good mentor must possess a lot of empathy, besides his scientific skills. Also, he must remain humble and accessible, and should not put too much distance between himself and the mentee. He must be sometimes very patient, and accept that the mentee builds his/her own experience. He must also give clear directions to help the mentee get in the right direction. A true mentor-mentee relationship will last if the mutual respect is present, and especially if this relationship can turn into a friendship.

Advice to Potential Mentees

When considering the advice that he can give to his peers, who are also interested in seeking out mentors such as Dr. Cavalier, Dr. Yayo remarked: “Based on my experience, I think that anybody looking for a mentor should first target researchers who are resource specialists in their research field. The candidate mentee should also actively participate in congresses and scientific meetings pertaining to their research topics. Then, they should present the work that they have already accomplished, and put forward details about what they would like to do, and the difficulties they have faced in their research work. Further, if an opportunity arises, they should seize it and work on it with the greatest seriousness and the greatest scientific honesty.”
17th-20th Nov 2019, Jaipur, India: The 15th APFCB Congress, organised at Jaipur, India concluded with informative scientific programme ranges from scientific meetings, plenary lectures, symposia and workshops to Lab expo. Congress was organized at state-of-the-art Jaipur Exhibition & Convention Centre and joined by hundreds of world renowned experts from India & abroad. Jaipur is also known as “Pink City” and situated in the royal deserts of the Rajasthan state.

IFCC-TFYS was able to continue its education programs with continuous support of senior members APFCB, IFCC & ACBI with special mention to the Organizing Chairperson Prof Praveen Sharma. On precongress day 17th Nov, the joint interactive workshop was conducted by IFCC-CCLM & IFCC-TFYS titled “Building Tomorrow’s leaders by the young generation”. The workshop was intended to assist young scientists in developing their own strategies for leading in the rapidly evolving laboratory medicine environment. Thus, delivering informative & encouraging talks by Prof Edward Randell (Evolving into an Effective Leader: Key strategies that make a difference), Prof Praveen Sharma (Critical Thinking: Building Good Judgement), Prof Pradeep K Dabla (Leadership & Team Development: Success Together) & Prof Sedef Yenice (Promoting Future Leaders of Laboratory Medicine).

17th Nov 2019, Workshop by IFCC-CCLM & IFCC-TFYS entitled “Building Tomorrow's leaders by the young generation”
On 26th Nov, IFCC-TFYS organized a symposium entitled “Clinical Chemistry to Clinical Laboratory Science - Future Challenges” Chaired by Prof. Maurizio Ferrari, President IFCC & Prof. Pradeep K Dabla, Chair IFCC TFYS. It was intended to discuss recent trends and challenges in relation to laboratory management, technical developments and educational changes. It included refreshing self experience & point of view by young colleagues namely Dr Marie Lenski (Changing Lab Environment-Perspective from Young Scientist), Dr Santiago Fares Taie (Are we prepared? How can we do it?- Step to the Future), Dr Ashlin Rampul (Core Laboratory Concept), & Dr Joe El-Khoury (Bringing Your Lab to the Operating Room).

IFCC-TFYS was able to bring “IFCC TFYS Snibe Travel Awards” at APFCB 2019 with the generous support of Snibe. It helped “3 Young Scientists” for travel awards and each Award consisted of a certificate & amount value of the sum SGD-1000 presented at APFCB ceremony. Though not limited, APFCB 2019 presented with tens of Awards & Bursaries supported by IFCC, APFCB, ACBI for young scientists to join congress from different countries.

IFCC-TFYS conducted its annual functional meeting at APFCB congress discussing important projects of the Task Force, current scenario and future prospects to formalise strategy for programmes 2020. APFCB congress 2019...
offered an amazing platform to young scientists for meeting colleagues and sharing experience by means of educational and social gathering. We enjoyed Indian culture with appealing traditional Indian food.

IFCC-TFYS is thankful to all senior members and authorities for this unconditional support to young scientists for joining this academic feast. TFYS has also planned to organise first of its own kind “Young Scientist Forum” at “IFCC WorldLab Seoul 2020” for participation, networking & education supported by IFCC-EB. Looking forward to meeting you at WorldLab Seoul 2020.
The UNIVANTS of Healthcare Excellence Award program celebrates teams who have achieved measurably better outcomes in healthcare.

If you are a team of UNIFIERS who have applied AVANT-GARDE approaches to achieve better healthcare outcomes, learn more and apply at UnivantsHCE.com.
The National Association for Healthcare Quality (NAHQ) partnered with Abbott Diagnostics to join the International Federation of Clinical Chemistry and Laboratory Medicine and other leading healthcare organizations, to offer the UNIVANTS of Healthcare Excellence Award, a prestigious program that recognizes and inspires measurable better healthcare through UNITY and AVANTE-GARDE strategies involving laboratory medicine.

Educating others to achieve higher quality care with better outcomes at lower cost is a priority for NAHQ, which according to Stephanie Mercado, CEO, begins with aligning people, infrastructure and technology. “It’s time to leverage quality and employee engagement as a business strategy,” Mercado says.

That is why NAHQ supports the UNIVANTS of Healthcare Excellence Award as cross-functional teams are recognized for collaborative and transformational healthcare delivery which ultimately, improves care for patients across the globe.

SECURING SENIOR LEADERSHIP BUY-IN

While senior executives are eager to improve quality, they often need more information before increasing investments in quality-driven workforce initiatives. Action often requires data and a call-to-action.

Articulate the problem

A 2018 Global Healthcare Alliance study found that organizations that report readiness to move towards value-based care models, tend to lack systems and processes to make the shift happen. The reason: Healthcare leaders often lack a consistently coordinated, competent healthcare quality workforce to deploy quality competencies while also lacking systems at the implementation level to achieve value. Translating the purpose, goals and objectives into results requires a competency-based workforce.” A new NAHQ report, Key Workforce Competencies for Quality-Driven Healthcare, provides opportunity for quality professionals to self-assess readiness in order to help their organizations succeed with value.

Article continued on next page
**Identifying solutions**

There is often confusion between competency-based training and other training solutions. Competency-based training focuses on a standard toolset in which healthcare quality professionals can draw upon to solve a myriad of acute issues. The NAHQ Healthcare Quality Competency Framework involves competency-based training and sets specific job requirements and capabilities across eight domain areas and 29 competency statements. The competencies apply to all settings across the continuum and offer a career development path. Investments in training and education will advance quality professionals’ capabilities, in both foundational responsibilities as well as new areas that are increasingly critical to improving value and remaining competitive.

**Show results**

Many pioneering healthcare organizations have leveraged their investment in quality competencies to improve care while delivering impressive financial benefits. One example is Universal Health Services (UHS), an integrated delivery network of 27 acute care hospitals and more than 320 behavioral health facilities in the U.S., Puerto Rico and the U.K. UHS sought to improve upon its mission of providing superior quality healthcare services with full appreciation that leadership and a skilled workforce were critical.

Despite diverse care settings, medical and related services, geographies, patient populations and other variations, UHS was able to standardize performance measurements across the system. Their effort transformed health system performance, while improving patient outcomes, elevating health quality and reaching service excellence.


*To learn more about the UNIVANTS of Healthcare Excellence Award, visit the program website at: www.UnivantsHCE.com.*

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Eight leading healthcare organizations have collaborated for the UNIVANTS of Healthcare Excellence Award, a prestigious and annual award program that honors integrated clinical care teams who have achieved measurably better healthcare performance.

The program was created in 2018, inspiring teamwork across healthcare silos with a call to action to “unify” across disciplines, while maximizing the value of laboratory medicine in measurable and “avant-garde” ways.

Last year, three winning teams were selected for the program’s highest honor with nine additional teams also recognized with program distinction for outstanding achievements in healthcare excellence. More details about all twelve best practices can be found on the program website at www.UnivantsHCE.com.

This year, the original deadline for 2020 award applications was February 28th, 2020. The February deadline however was recently extended by 6-months, ensuring more time for applicants to submit nominations by the new deadline of August 31, 2020. This extended timing was announced shortly after the program also communicated additional opportunities for applicants to win regional award distinction, in addition to the top global awards.

*Article continued on next page*
Thus, more opportunities exist for award recognition in 2020, including the following area awards:

- “Best in Asia Pacific”, “Best of Europe”,
- “Best of North America”,
- “Best of Latin American and the Caribbean”, and
- “Best of Africa, Middle East and Turkey”.

Details pertaining to the minimum criteria needed for award eligibility can be found at www.UnivantsHCE.com. However, key criteria, include the use of laboratory data into clinical practice to transform and advance healthcare. The advancements are measured via key performance indicators (KPIs), with at least one KPI required across each the following four stakeholders: patients, payor, clinicians and health systems. Representative examples of successful best practices can be found on the website and used as valued resources to begin local best practice with similar success.

The award scoring is independently assessed by world leaders across healthcare disciplines including lab medicine (championed led by IFCC and AACC), healthcare quality (championed by NAHQ), health information management systems (championed by HIMSS), healthcare economics (championed by IHE), healthcare management (championed by EHMA) and patient centric care (championed by Modern Healthcare). All 7 of these organizations have partnered with program founder, Abbott Laboratories, to inspire and celebrate transformational medicine.

Applications for the 2020 healthcare excellence awards have begun and will be considered for program recognition if received by the new award deadline of August 31st, 2020. The time is now to maximize this expanded opportunity to share a best practice in your region the highlights the power of laboratory medicine in achieving measurable benefits for patients, payors, clinicians and health systems.
Biomedical devices are increasingly connected to the Internet, laboratory/hospital networks, and other medical devices to provide features that improve health care efficiency. These same features also increase the risk of potential cybersecurity threats. Cybersecurity can be defined as the protection of internet-connected systems, including hardware, software and data, from cyberattacks. In a computing context, security in Information Technology (IT) is the defense of digital information and IT assets against internal and external malicious and accidental threats. Information security, which is designed to maintain the confidentiality, integrity and availability of data, is a subset of cybersecurity.

Threats to IT security can come in different forms. A common threat is malware, or malicious software, which may come in different variations to infect network devices, including: ransomware, spyware, viruses. Ransomware, coupled with an expanded attack surface are among the top security concerns. According Nathan Eddy, technology freelancer from Berlin, a troubling new trend is to attack automatic software and firmware update systems. A good example was, last March 2019, the Operation “ShadowHammer”. The hackers exploited weaknesses in the software pipeline and used software updates to push malware onto victims’ computers. These trending risks are particularly important due to the proliferation of new medical technologies and because often with these technologies are higher the stakes. Cyberattacks will become more frequent and indiscriminate.

The “zero trust” approach would emerge as a key strategic approach. An IT security model requires strict identity verification for every person and device trying to access resources on a private network, regardless of whether they are sitting within or outside of the network perimeter. The interoperability coupled with increasing consolidation activity in healthcare are larger driving factors that attackers will exploit. The healthcare sector is especially vulnerable due to the need for timely access to biological and medical data for diagnosis and treatment as well as because the amount of sensitive data being collected. Shorty, cellular 5G technology will allow a much larger proliferation of IoT medical devices and the security implications of this are enormous. With the introduction of many centralized or decentralized instruments introduced to hospital networks, the ability to monitor, patch and secure devices becomes exponentially more difficult. The increasing complexity of connected

**Uplifting the medical lab cybersecurity**

_by Dr. Bernard Gouget_

Chair, IFCC Committee on Mobile Health and Bioengineering in Laboratory Medicine (C-MHBLM)
Past-Chair, IFCC Nominations Committee (NC)
Co-Chair, IFCC TF on History
SFBC-International Committee
President - Healthcare Division Committee - Comité Français d’accréditation (Cofrac)

Digital transformation in Lab Medicine and healthcare is the new reality and Internet of Things (IoT) is at the forefront of that transformation. We are more and more familiar with the daily digitalized operations and the interconnected world from personal devices to more complex systems in healthcare and other industry business. A huge amount of devices and machines generate and exchange massive amounts of data. Using these data to make intelligent medical decisions is crucial. With the increased use of data, the vulnerability increases. Medical diagnostics is one of the fields in which Internet and AI-based technologies are into widespread use.
equipment significantly raises the stakes with respect to failures in different medical and laboratory areas (robotics, monitoring, etc...)

Cybersecurity is continually challenged by hackers, data loss, privacy, risk management and changing cybersecurity strategies. Nothing currently indicates that cyberattacks will decrease. Moreover, with an increased number of entry points for attacks, more strategies for securing digital assets are needed to protect networks and devices. One of the most problematic elements of cybersecurity is the continually evolving nature of security risks. As new technologies emerge and existing technology is used in new or different ways, new avenues of attack are developed as well. Keeping up with these continual changes and advances in attacks and updating practices to protect against them is always challenging. This also includes ensuring that all the elements of cybersecurity are continually changed and updated to protect against potential vulnerabilities.

Artificial intelligence (AI) applications in healthcare are all the rage now, and so are cybersecurity threats. Cybersecurity seeks to protect data, ideas, innovations, research and processes. It is challenging to understand how AI is being applied and how AI, machine learning and deep learning techniques can augment cybersecurity. Some of the cyberattacks have become more sophisticated through the use of AI to get past cyber defenses. AI applied to cybersecurity can provide security professionals with an augmented ability to protect endpoints, data, and networks and to quickly and cost effectively stop intrusions or even prevent them before they happen.

Cybersecurity is multifaceted. Protecting a health structure, a medical laboratory, a hospital or a business company is very complex. The problem with networks, clouds, computers, and connected devices is that people use them. First, the best cybersecurity includes automatically well trained users and an integrated cybersecurity into the phase of software development to avoid malicious attacks because the vulnerabilities. Obviously, both Artificial Intelligence and Cybersecurity are broad fields, and Cybersecurity is one of the greatest challenges of our generation over the next decades. Threats and vulnerabilities cannot be eliminated, therefore, reducing cybersecurity risks is especially challenging and requires awareness, continuous vigilance, and a consolidated response from everyone involved.

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**News from the IFCC Website**

**IFCC WG-GCP Survey for Genomics in Oncology is still open**

**IFCC Genomics Survey**

The purpose of this survey is to better understand the current practices as well as needs of pathologists and clinicians in oncology. The goal is to determine resources that would be most useful for those currently using genomics in oncology patient care, as well as those considering utilizing genomics in the care of their patients. We are also very interested in responses from those in academic medical centers as those with extensive experience may provide insights into their understanding of best practices for those moving into this space.

We are especially interested in responses from those institutions with limited experience who are considering moving into genomic testing in oncology. We are also seeking responses from those with genetics experience, to build a guide of best practices for those moving into this space.

Read more

Complete the survey at the following link: [https://forms.gle/E6rocHtwcnW965rQ6](https://forms.gle/E6rocHtwcnW965rQ6).
With the participation of delegates from eight departments of Bolivia and convening of the National Executive Committee of the BOLIVIAN SOCIETY OF CLINICAL BIOCHEMISTRY (SOBOBIOCLI), in the city of Cochabamba under an atmosphere of joy for the commemoration of the 50 years of creation of our entity. The First National Consultative Meeting was carried out and subsequently the Protocolary and Honor Cocktail ceremony in honor of the 50th anniversary of the foundation of our national entity and inauguration of the offices of the parent entity of the professionals dedicated to the clinical laboratory and laboratory medicine in Bolivia.

The act highlighted the work done by Dr. Álvaro Justiniano Grosz, who led this long-awaited achievement of having our own offices, also pondering his tireless work in the professional and academic field, setting clear objectives for the collective and individual development of our profession.

National and local authorities of the city of Cochabamba, Ministry of Health, medical professionals, representatives of professional institutions, presidents of the Colleges of Biochemistry and Pharmacy of Bolivia of the departments of Bolivia and the Departmental Subsidiaries of our entity, the Former Presidents of the Bolivian Society of Clinical Biochemistry
(SOBOBIOCLI), who received two awards for their contribution to the strengthening of our entity in its 50 years of institutional life participated as well. It should be underlined that the participation of all the Executive Committee of the LATINAME CONFEDERATION RICANA OF CLINICAL BIOCHEMISTRY (COLABIOCLI) enhanced the present act.

At an important time for the institutional life of our entity, the progress of the BOLIVIAN PROGRAM OF CONTINUOUS EDUCATION (PROBOECO) that is carried out in agreement with the Argentine Biochemical Foundation and under the auspices of IFCC, COLABIOCLI, the preparation of the manual has emphasized Laboratory Accreditation that will allow in the future to have the BOLIVIAN LABORATORY ACCREDITATION PROGRAM (PROBOACRELAB).

The need to resume THE EXTERNAL QUALITY ASSESSMENT PROGRAM (PEEC) and its consolidation in our country was emphasized, since everything is currently done with materials purchased by suppliers from other countries.

An important issue is that the leadership of the BOLIVIAN SOCIETY OF CLINICAL BIOCHEMISTRY (SOBOBIOCLI), must be recognized by the authorities of the Bolivian Ministry of Health both nationally and locally, so that the experience of our entity and the professionals members, help to develop the regulatory frameworks in the work of clinical laboratories in Bolivia, as well as revitalize the role of the Biochemistry professionals working in clinical laboratories who are indispensable in the multidisciplinary health team.

Achieving this new recognition of the Laboratory professional also involves other professionals, who work together with the authorities of the training bodies of Biochemical professionals, that is, the Universities, who are
responsible for curriculum letters and according to current requirements, are forming qualified human resources with a solid academic training essential today in order to face a demand of professionals with high scientific knowledge and a developed orientation towards research, capable of developing science and technology in our country, and at the same time keeping the humanitarian and social content that the professional working in the clinical laboratory should have in this technological and robotized environment.

Growth by Work Performed as President to Dr. Álvaro Justiniano Grosz - Delivery of plaque; Dra. Alina Arteaga, de Santa Cruz Departmental Subsidiary

National Consultation - National Executive Council - Presidents of the nine Departmental Subsidiaries of the Bolivian Society of Clinical Biochemistry
The Joint Congress of BCLF and TBS was held at Papillon Zeugma Convention Centre, Belek Antalya – Turkey, under the auspices of IFCC and EFLM.

There were 600 participants, including the 26 invited speakers and 26 exhibitors.

The distribution of the participants, throughout a total of 18 countries, was: Azerbaijan (4), Bosnia (20), Bulgaria (16), Canada (1), Croatia (1), Germany (2), Greece (4), Iran (6), Iraq (1), Italy (1), Kosovo (3), Netherlands (1), North Macedonia (6), Norway (2), Pakistan (2), Sweden (2), Syria (1), Turkey (495).

The sponsors were Roche (platinum), Mindray and Snipe Diagnostics (gold), Sysmex and Siemens Healthineers (silver).

The exhibitors and sponsors were as follows: Abbott, Archem Diagnostics, AREN, BD, Beckmann Coulter, Bergama Tip, Bioanalytics Diagnostics Industry, Biobak, BOME Trivitron, Centro Laboratuvarlari, Dirui Turkey, End-Med, Erol Medikal, FujiFilm, Gelecek Yazılım, Mühendislik, Medikal, Grenier Bio-One, Karca Medikal, KROS, Rel-Assay, Neontek, Pera Medikal, Stago Turkey, TÜBİTAK National Metrology Institute, and APLUSTBD EQA.
Five courses, one workshop and 5 industry sponsored symposiums were organized.

The titles of them were “EFLM Scientific Course: How to write a good scientific and professional article?”, “miRNA isolation and expression”, “Six Sigma application for analytical performance”, “Mass spectrometry use in clinical laboratory practice (Basic Course)” and “Mass spectrometry use in clinical laboratory practice (Advance Course)”; “Elements of Metrological Traceability for Laboratory Medicine”, “The role of autoverification in postanalitical process improvement”, “The clinical performance of Maglumi AMH, 17-OH progesterone and B2 microglobulin”, “Automation solutions in laboratories”, “Clinical utility of Reticulocyte Hemoglobin and Hypochromic erythrocytes reported by Mindray BC6800 Plus hematology analyzer in the study of erythropoiesis”, “HbA1c immunoturbidimetric test: CRM concept, standardization and interference studies”.

The IFCC Visiting Lecturer, Koshrow Adeli (CA), the IFCC President Elect, presented the talks on “eApps and medical diagnostics data management”, “Value and impact of laboratory medicine in healthcare delivery”, “Lipid guidelines: emerging evidence on importance of non-fasting and postprandial lipids”. 

Sverre Sandberg (EFLM past-president, on behalf of EFLM, Norway), awarded with a plaque

Group of BCLF and TBS joint Congress organizers and speakers
The plenary lectures were “Uncertainty in laboratory medicine” by Mario Plebani, “Harmonisation in clinical laboratories and the harmonisation activities of EFLM” by Sverre Sandberg, “Bias in clinical chemistry” by Elvar Theodorsson, “Value and impact of laboratory medicine in healthcare delivery” by Khosrow Adeli; “The new IVD regulation 2017/746 and consequences for laboratory medicine” by Christa Cobbéart, and “Galectin-3: from molecule to biomarker and back” by Jerka Dumic.

The lecturers from the federations were: Koshrow Adeli, IFCC President-Elect; Tomris Özben, BCLF Past-President and Representative of TBS EFLM President-Elect IFCC Treasurer, IFCC Foundation for Emerging Nations (FEN), Board of Directors; Yeşim Özarda, IFCC C-RDIL Chair; Sedef Yenice, IFCC C-CLM Chair; Sverre Sandberg, EFLM past-President; Jerka Dumic, FEBS National Lecturer.

The recipient of the 2019 Nazmi Ozer Scientific Research Award is Burak Barut (Karadeniz Technical University, Faculty of Pharmacy) with ‘Novel water soluble BODIPY compounds: Synthesis, photochemical, DNA interaction, topoisomerases inhibition and photodynamic activity properties’ published in European Journal of Medicinal Chemistry (December 2019).

The abstracts of all presentations including invited speakers (26), oral presentations (115), posters (207), industry sponsored symposiums (5), and 5 full-text articles from oral presentations were published in the “Turkish Journal of Biochemistry”, 2019:44;S3.

TBS granted registration bursary for about 70 young scientists. As seen in the Journal, considerable numbers of young scientists and professionals had the opportunity to present their research, observations, and share their experiences.

Additionally, APLUSTBD External Quality Assessment Scheme, a newly founded EQA program in cooperation with APLUS Diagnostics and TBS, was launched during the Congress.

News from France: LABAC

Showing the way from compliance to quality excellence

by Jean Marc GIANNOLI
LABAC President

Jean-Pierre BOULLOUX
LABAC treasurer

Bernard GOUGET
President, Healthcare Division Executive Committee
Comité Français d’accréditation (Cofrac)
Chair IFCC-C-MHBLM

The aim of LABAC association is to strengthen Lab Medicine for better practices in the areas of quality assurance and for the improvement of knowledge in diagnosis, prognosis, and therapy. LABAC activities may be understood as coordinated and consensus approaches for promoting accreditation in lab medicine. As an EFLM/IFCC affiliate member, LABAC is working internationally in partnership with national and international lab medicine societies, as well as with industry, policy makers and the patient associations to deliver its mission. In deciding which scientific activities to support, LABAC places priority on accreditation and applied laboratory medicine science that are likely to make a difference in clinical laboratory practice in order to promote better health outcomes. LABAC is deeply involved in the revision process of the ISO 15189 standard and other standards managed by ISO TC 212. Last November, LABAC participated at the Mexico City (MX)
meeting and will attend the next meeting in Sydney (AU) on May 2020. LABAC organizes also expert meetings in partnership with the French Society of Microbiology (SFM) to facilitate the implementation of ISO 15189 standard requirements particularly on methods verification and validation.

LABAC is committed to the improvement of lab practices through pioneering partnerships and capacity-building schemes. LABAC has created valuable platforms, tools, and training programs. Activities and publications in 2019 demonstrate the impact of LABAC investment into relevant areas such as quality assurance and quality management, transparency and reliability of measurement results in lab medicine.

First, Jean-Pierre Bouilloux et al. published a monography on «Metrology of temperature measurement in the medical laboratory», July 2019 by Herail printer, 106 pages. The lab test systems are measuring biological specimens. So vital is the temperature which is the basic building block of most analytical measurements. Mastering the challenge of temperature for the sample, transport and reagents storage is a key issue to guarantee an optimal equipment functioning. Some reliable methods are proposed for the measurement and monitoring of the temperature. This document gives a global overview of both the importance of accurate temperature measurement in the clinical laboratory and some common misconceptions. Adherence to these best practices should reinforce confidence in laboratory competency.

LABAC is always serving the scientific information needs of medical biologists and other stakeholders dealing with accreditation and quality management, including the development and application of metrological principles and concepts, such as traceability and...
measurement uncertainty. On June 11 and November 26, 2019, the two days of training were dedicated to “Temperature and Metrology”: with exchanges on temperature measurements, thermostatic chambers, and other technical problems and a round table discussion on qualification and empowerment of metrology operators, project coordinators and lab managers. The next continuous training session on “Recommendations for the implementation of quality control and monitoring” will be held on March 19, 2020.

The last 41st International Conference on “Quality management and quality controls” was held at the Maison de la Chimie on October 1st, 2019. It was an opportunity to welcome the two editors in chief of the most popular scientific journals in the field of Lab medicine CCLM (EFLM) and Clinical Chemistry (AACC).

The first session was chaired by Prof. JL Beaudeux, Dean of the Faculty of Pharmacy Paris V and by Dr. L. Essemi- laire, who welcomed Prof. Mario Plebani, special guest speaker, who spoke on “Quality in lab medicine: a long journey”. Bio Rad supported Dr. Curtis Parwin (US) presentations on “the approach to QC frequency: the story of max (ENuf)” and “designing QC strategies to manage patient risk”. Prof. Tony Badrick captured our interest with a lecture on “the choice of the critical difference”.

Dr. Bernard Gouget welcomed Prof. Nader Rifai, guest of honor, who spoke on “Communication of scientific and educational information in laboratory medicine: innovative approaches and tools”. Since 1850, over 22 million articles have been posted on PubMed alone; of which 10 million were since 2000. The increase in the number of published scientific articles and journals has been exponential. This fact presents a challenge to journal editors regarding how to choose the appropriate articles to be published, the best to present the findings, and most importantly, how to distinguish the information published in their journals from what is found in the literature in general.

Advancements in technology have greatly influenced the way editors communicate scientific and educational information and helped to address some of the above-mentioned concerns. Information can be easily presented in multiple formats (textual, visual, and audio) at multiple levels of difficulty to better address the needs of the various readers. Electronic platforms have enabled the presentation of supplementary materials, podcasts, videos, and animations to enhance the delivery of information and enrich readers’ experience.

Technology also enabled the use of novel educational concepts such as adaptive learning, the closest to personalized education. In his lecture, the presenter shared his experience in disseminating scientific and educational information from three products, the journal Clinical Chemistry, the Tietz Textbook of Laboratory Medicine and Molecular Diagnostics, and NEJM/AACC Knowledge+ for Laboratory Medicine.

Two “LABAC Prix d’honneur 2019” were given to Prof. Mario Plebani, MD «Pour sa contribution exceptionnelle à la promotion de la profession et de la qualité en biologie médicale» and to Prof. Nader Rifai, PhD «Pour sa contribution exceptionnelle à la recherche scientifique et à la formation innovante en biologie médicale».

The afternoon session was dedicated to the Bayesian uncertainty integration by A. Heim. Prof. V Thibault reported on Hepatitis B biomarkers. JP Bouilloux, President, S94C AFNOR commission, A Vassault, E Guillier and H Méhay presented the latest updates on the revision of the NF ISO 15189 and breaking news of the evolution of the accreditation in France. In addition, the participants learned more about recent developments of accreditation legislation and got the latest news and announcements about forthcoming meetings.

Stopped by the SFBC in 2016, the French module of Lab Test Online which is an award-winning AACC resource helping patients to better understand the many clinical laboratory tests, was reactivated by LABAC last October 2019, the average visits per month are 343 400.

LABAC is increasing his collaboration with EFLM/IFCC through its participation to official European and International events.

Through the organization of the scientific events, LABAC is regularly inviting IFCC/EFLM officers, EB members and International specialists to establish closest collaborations with the European and International Federations.
NEW IFCC MEMBERS

IFCC welcomes a new Member

Georgian Medical Laboratory Association (GLMA)

by Prof. Tinatin Bukia

President of Georgian Laboratory Medicine Association (GLMA)

website: www.glma.ge

e-mail: info@glma.ge

Georgian Medical Laboratory Association was founded in 1998 as a non-political, non-profit organization. The primary purpose as of today remains raising an awareness of laboratory medicine in Georgia, introducing and implementing the latest methods and technologies available internationally and enhancing qualifications of laboratory staff.

Georgian Laboratory Medicine Association promotes and coordinates scientific, philanthropic, intellectual and professional activities in Georgia. Association is guided by the following 4 principals: Independence, quality, transparency and objectivity.

Since inception 237 medical laboratory practitioners have joined the association. All members are engaged in at least practical, scientific-research and/or educational activities in laboratory medicine.

The current President, emeritus professor Tinatin Bukia has been actively involved in association activities over two decades now. She is leading the board comprised of 23 members, all with extensive and diverse experience. They bring accountability and judgement to the

Article continued on next page
Board’s deliberations to ensure maximum benefit to members of the association and the industry in general.

One of the founders and patrons of the association is Tbilisi State Medical University which has been supportive of the initiatives and collaborated on preparation of certification questionnaires and certification exams for medical laboratory practitioners.

The association is oriented on continuous improvement and development of the medical laboratory industry in Georgia. GLMA also acts as an arbitrator in disputes resolution between laboratories and patients on request of Ministry of Health, Labour and Social Affairs.

The year 2019 was a busy year for the GLMA. In June 2019, the first successful assembly was convened with high turnout, followed by an International Conference on Quality Control and Assurance in Laboratory Medicine, organized by Georgian Laboratory Medicine Association. Various conferences and workshops have been organized around Georgia in relation to Laboratory Medicine.

In November 2019 GLMA became full member of IFCC. GLMA hopes to face the existing challenges with the tools and shared knowledge from IFCC and be at the forefront of shaping the Medical Laboratory industry in Georgia.

Prof. Tinatin Bukia, MD
President,
Georgian Laboratory Medicine Association (GLMA)
Emeritus Professor,
Tbilisi State Medical University (TSMU)
Zhejiang Quark Biotechnology Co., Ltd was founded in 1993, it is the first batch of state-level high-tech enterprises specialized in R&D, production and sales of clinical diagnostic reagents in vitro.


It has 102 certificates of in vitro diagnostic products, and the products have passed the certification of external Quality Assessment of the Clinical Laboratory Center of the Ministry of Health.

The Company has first-class laboratory in China, it is the undertaking unit of the national science and technology innovation fund project and the major science and technology special projects in Zhejiang province.

Website: http://www.zjkuake.com/.
IFCC welcomes a new Corporate Member: Labtronic

Labtronic was established in 2009 to promote clinical diagnostic laboratory equipment and reagents.

We work only with trusted manufacturers of laboratory equipment and reagents who have established themselves as leaders in the field of in-vitro diagnostics: Boule Medical AB (Sweden), Diasys Diagnostic Systems GmbH (Germany), 77 Elektronika Kft (Hungary), Beckman Coulter (USA), Helena Biosciences Europe (Great Britain), Sartstedt (Germany), Eschweiler GmbH & Co. KG (Germany), DRG Instruments GmbH (Germany), Biotek Instruments Inc (USA), Gold Standard Diagnostics Corp (USA), Erma (Japan).

Websites: [www.labtronic.me](http://www.labtronic.me)  [www.labtronic.eu](http://www.labtronic.eu)

**News from the IFCC Website**

**IFCC Call for Nominations**

The IFCC invites nominations for the following positions:

- **EMD Committee on Point of Care Testing (C-PoCT):** one corporate member position. Applications close on 22 March 2020.
- **Task Force on Ethics (TF-E):** one member position. Applications close on 15th March 2020.

Refer to your National Representative or Corporate Representative.

[Read more](#)
ICBMB 2020

16th National Congress of Biochemistry & 7th International Congress of Biochemistry & Molecular Biology

Tehran - Iran

Congress Highlights

- Clinical Biochemistry & Molecular Diagnostics
- Nanoscience & Nanotechnology
- Structural & Molecular Biology
- Pharmaceutical Biochemistry
- Biotechnology & Proteomics
- Laboratory Management
- Nutritional Biochemistry
- Applied Biochemistry
- Cancer Biochemistry
- Systems Biology

ICBMB2020.IR

6 - 8 September 2020

16 آبان 1399 شهريور

ICBMB2020
ICBMB2020@gmail.com
www.ICBMB2020.com
IFCC'S CALENDAR OF CONGRESSES, CONFERENCES & EVENTS

We advise readers to keep up-to-date about the evolving situation and possible rescheduled dates. Contact organizing secretariats for updates on upcoming events.

### Calendar of IFCC Congresses/Conferences and Regional Federations' Congresses

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 9 - 13, 2020</td>
<td><strong>Winter School on Cell Analysis in Immunology</strong></td>
<td>Geneva, CH</td>
</tr>
<tr>
<td>POSTPONED</td>
<td><strong>International Congress of Pediatric Laboratory Medicine</strong></td>
<td>Seoul, KR</td>
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<tr>
<td>POSTPONED</td>
<td><strong>IFCC Young Scientists Forum</strong></td>
<td>Seoul, KR</td>
</tr>
<tr>
<td>POSTPONED</td>
<td><strong>IFCC C-POCT Satellite Meeting</strong></td>
<td>Seoul, KR</td>
</tr>
<tr>
<td>POSTPONED</td>
<td><strong>XXIV IFCC WorldLab Seoul 2020</strong></td>
<td>Seoul, KR</td>
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</table>

We advise readers to keep up-to-date about the evolving situation and possible rescheduled dates. Contact organizing secretariats for updates on upcoming events.

Calendar continued on next page
### Calendar of events with IFCC auspices

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Description</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Feb 20 - Nov 15, 2020</td>
<td>Virtual Diploma in Control of Analytical Quality in the Clinical Laboratory</td>
<td>Internet series of lectures, MX</td>
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<tr>
<td>Mar 5 - 7, 2020</td>
<td>Multidisciplinary Conference on rare genetic diseases in Pakistan</td>
<td>Karachi, PK</td>
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<tr>
<td>Mar 14 - 16, 2020</td>
<td>XXIII Congreso Nacional para el Análisis de la Garantía de la Calidad en el Laboratorio Clínico</td>
<td>Tuxtla Gutierrez, MX</td>
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<tr>
<td><strong>Postponed to second part of 2020</strong></td>
<td>42th Conference LABAC “First International Conference on in vitro hemolysis”</td>
<td>Paris, FR</td>
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*Calendar continued on next page*
<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event</th>
<th>City/Location</th>
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<tbody>
<tr>
<td>Mar 27 - 28, 2020</td>
<td>TBS-BD 2020 Preanalytical Phase Symposium</td>
<td>Mardin, TR</td>
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<tr>
<td>Apr 6 - 7, 2020</td>
<td>6th Serbian Biomarker Symposium (SERBIS) Lipid Metabolism in Health and Disease</td>
<td>Belgrade, SRB</td>
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<tr>
<td>Apr 15 - 18, 2020</td>
<td>The 13th International &amp; 18th National Congress on Quality Improvement in Clinical Laboratories</td>
<td>Tehran, IR</td>
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<tr>
<td>Apr 23 - 25, 2020</td>
<td>VI Jornadas Bioquímicas de Cuyo 2020</td>
<td>San Luis, AR</td>
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<tr>
<td>Apr 27, 2020</td>
<td>LabMed Next</td>
<td>Rome, IT</td>
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<tr>
<td>Apr 30 - May 3, 2020</td>
<td>LXVI Congreso Estatal de Química Clínica y Expoquim 2020</td>
<td>Ciudad Obregón, MX</td>
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<tr>
<td>May 6 - 8, 2020</td>
<td>4th Conference of the Romanian Association of Laboratory Medicine</td>
<td>Târgu-Mureș, RO</td>
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<td>May 28 - 30, 2020</td>
<td>II National Meeting Conquilab and Technological</td>
<td>Mazatlan, MX</td>
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<td>Jun 9 - 12, 2020</td>
<td>XXXVII Nordic Congress in Medical Biochemistry</td>
<td>Trondheim, NO</td>
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<td>Jun 18 - 21, 2020</td>
<td>CCMG CSCC 2020 Joint Conference (CSCC)</td>
<td>Winnipeg, CA</td>
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<tr>
<td>Jul 4 - 7, 2020</td>
<td>24th International Conference on Laboratory Medicine and Pathobiology - An Expert Forum on Innovation in Clinical and Laboratory Medical Sciences</td>
<td>Samos, GR</td>
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<tr>
<td>Sep 6 - 8, 2020</td>
<td>16th National and 7th International Congress of Biochemistry and Molecular Biology</td>
<td>Tehran, IR</td>
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<tr>
<td>Sep 23 - 25, 2020</td>
<td>The innovations and trends that are shaping the future of laboratory medicine and Neighbouring Countries: the Same Professional Aim in Laboratory Medicine</td>
<td>Belgrade, SRB</td>
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<td>Nov 27 - 28, 2020</td>
<td>3rd EFLM Strategic Conference on Demand Management</td>
<td>Zagreb, HR</td>
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<tr>
<td>June 10 - 11, 2021</td>
<td>8th International Symposium on Critical Care Testing and Blood Gases</td>
<td>Biarritz, FR</td>
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### IFCC MEMBERSHIP

#### Full Members

<table>
<thead>
<tr>
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<tr>
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#### Corporate Members

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<td>Abbott</td>
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<td>ADx Neurosciences, Ltd.</td>
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<td>Agappe Diagnostics, Ltd.</td>
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<td>BD Life Sciences – Preanalytical Systems</td>
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<td>ET Healthcare Inc.</td>
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<td>Fujifilm Wako Pure Chemical Corporation</td>
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<td>Fujirebio Europe</td>
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<td>Immunodiagnostics Systems - IDS</td>
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<td>Labtronic</td>
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<td>MedicalSystem Biotechnology Co., Ltd.</td>
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<td>A. Menarini Diagnostics</td>
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<td>Mindray</td>
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<td>Mitsubishi Chemical Europe, GmbH</td>
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<td>Nittobo Medical Co., LTD.</td>
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<tr>
<td>Nova Biomedical Corporation</td>
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<td>OneWorld Accuracy Collaboration</td>
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<td>Ortho-Clinical Diagnostics, Inc.</td>
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<td>Radiometer Medical ApS</td>
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<td>Random Laboratories, Ltd.</td>
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<td>Roche Diagnostics, GmbH</td>
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<td>SCL Healthcare</td>
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<td>Sekisui Diagnostics (UK) Ltd.</td>
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<td>Shanghai Kehua Bio-Engineering Co., Ltd.</td>
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<td>Sichuan Maccura Biotechnology Co., Ltd.</td>
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<td>Siemens Healthcare Diagnostics</td>
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<td>Sniebe Co., Ltd.</td>
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<td>Sysmex Europe, GmbH</td>
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<td>Timedico A/S</td>
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<td>Labor Dr. Wisplinghoff</td>
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<td>Zhejiang Kuake Biotechnology Co., Ltd.</td>
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#### Affiliate Members

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Brazil: Sociedade Brasileira de Patologia Clinica / Medicina Laboratorial (SBPC/ML)</td>
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<tr>
<td>China: Lab Medicine Committee, China Association of Medical Equipment (LMC)</td>
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<tr>
<td>Egypt: Egyptian Association of Healthcare Quality and Patient Safety</td>
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<tr>
<td>France: French National Network of Accredited Laboratories of Medical Biology (LABAC)</td>
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<td>India: Association of Medical Biochemists of India (AMBI)</td>
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<td>Iran: Iranian Association of Clinical Laboratory Doctors (IACLD)</td>
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<td>Jordan: Society for Medical Technology &amp; Laboratories (SMTL)</td>
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<td>Kazakhstan: Public Association - Federation of Laboratory Medicine (FLM)</td>
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<td>Mexico: Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)</td>
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<td>Nepal: Nepalese Association for Clinical Chemistry (NACC)</td>
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<tr>
<td>Philippines: Philippine Council for Quality Assurance in Clinical Laboratories (PCQACL)</td>
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<td>Serbia: Serbian Society for Clinical Laboratory Medicine and Science (SCLM)</td>
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<td>Spain: Asociación Española de Farmacéuticos Analistas (AEFA)</td>
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<td>Turkey: Society of Clinical Biochemistry Specialists (KBUD)</td>
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<td>Ukraine: Association for Quality Assurance of Laboratory Medicine (AQALM)</td>
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### Regional Federations

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<tbody>
<tr>
<td>Arab Federation of Clinical Biology (AFCB)</td>
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<tr>
<td>African Federation of Clinical Chemistry (AFCC)</td>
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<tr>
<td>Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)</td>
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<td>European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)</td>
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<td>South Pacific Federation of Clinical Chemistry (SPFC)</td>
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<tr>
<td>West Africa Federation of Clinical Chemistry (WAFCC)</td>
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**Country**: Country of the entity's main operations.

**Full Members**: Members of the IFCC that are recognized as full members based on their status and contributions to the federation.

**Corporate Members**: Companies and organizations that support the IFCC through financial contributions or by providing services.

**Affiliate Members**: Members that have a specific focus or are from a particular region.

**Regional Federations**: Federations that represent the IFCC in specific regions or continents.
Publisher
Communications and Publications Division (CPD) of the IFCC

The Communications and Publications Division publishes ten editions of the e-News per year, including two double issues.

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Evangelismos Hospital, Athens, Greece
E-mail: enews@ifcc.org

Design & Production:
epub@insoftdigital.com

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N° 1/2 – January/February: by mid January
N° 3 – March: by mid February
N° 4 – April: by mid March
N° 5 – May: by mid April
N° 6 – June: by mid May
N° 7/8 – July/August: by mid June
N° 9 – September: by mid August
N° 10 – October: by mid September
N° 11 – November: by mid October
N° 12 – December: by mid November

If you want to submit an article or advertisement to be published in the eNews, send it to:
Katherina Psarra, Editor, IFCC eNews
E-mail: enews@ifcc.org

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